

AMENDMENTS TO THE CLAIMS

Claim 1 (Presently Amended): An electronic circuit comprising:

a controller for processing a processor task and comprising:

a plurality of peripheral devices for performing associated tasks; and

a central processing unit for controlling the plurality of peripheral devices;

an energy determination means for determining the energy available to the controller; and

a control means (for controlling the controller depending on the energy available to the controller,

wherein the control means is disposed to control the plurality of peripheral devices in dependency on the processor task, the associated tasks and the energy available to the controller.

Claim 2 (Original): The electronic circuit as claimed in claim 1, wherein the control means is arranged so as to control the controller such that an energy required by the controller for the processor task is essentially equal to the energy available to the controller.

Claim 3 (Original): The electronic circuit as claimed in claim 1, further comprising:

an energy provision means for producing the energy available to the controller from electromagnetic energy supplied externally.

Claim 4 (Original): The electronic circuit as claimed in claim 1, which is designed as an integrated circuit suitable for an application with contact-less terminals.

Claim 5 (Presently Amended): The electronic circuit as claimed in claim 1, wherein the control means comprises:

a means for setting ~~the~~a controller clock with which the controller is operated, wherein a clock rate of the controller clock is increased when there is more energy available and decreased when there is less energy available.

Claim 6 (Original): The electronic circuit as claimed in claim 1, wherein the controller is implemented in CMOS technology.

Claim 7 (Canceled)

Claim 8 (Presently Amended): The electronic circuit as claimed in claim 71, wherein the control means is arranged so as to control the peripheral devices such that the computing time required for the performance of the processor task by the controller is minimized.

Claim 9 (Presently Amended): The electronic circuit as claimed in claim 78, wherein the controller is a cryptography processor, and the plurality of peripheral devices are cryptocoprocessors for performing computing tasks, and wherein the processor task is selected from a group consisting of an encryption, a decryption, an authentication and a signature according to the DES standard, the AES method, the RSA algorithm and the elliptic-curve method, and wherein the computing tasks of the plurality of cryptocoprocessors are selected from a group including consisting of a modular and non-modular addition, multiplication, exponentiation and inversion, a hash-value calculation and a random number determination.

Claim 10 (Presently Amended): The electronic circuit as claimed in claim 78, wherein the control means further comprises:

a means for setting the peripheral device clocks with which the plurality of peripheral devices are operated; and

a means for switching off individual peripheral devices of the plurality of peripheral devices.

Claim 11 (Presently Amended): The electronic circuit as claimed in claim 10, wherein the means for setting the peripheral device clocks comprises an oscillator associated with one of the plurality of peripheral devices and ~~producing~~produces a clock signal with an output clock frequency with which the associated peripheral device is clocked.

Claim 12 (Presently Amended): The electronic device as claimed in claim 10, wherein the means for setting the peripheral device clocks comprises a clock multiplier associated with one of the plurality of peripheral devices and ~~producing~~produces a clock signal with an output clock frequency with which the associated peripheral device is clocked.

Claim 13 (Presently Amended): The electronic circuit as claimed in claim 1, ~~wherein the controller comprises a peripheral device for performing an associated task, and a central processing unit for driving the peripheral device, and wherein the control means comprises a first means for setting a first clock with which the central processing unit is operated, and a second means for setting a second clock with which the peripheral device is operated, the first and second clocks being set such that the energy available suffices for processing the processor task-tasks and that, at the same time, the peripheral device is assigned a maximum energy possible for performing the associated task-tasks.~~

Claim 14 (Presently Amended): A method for controlling an electronic circuit comprising a controller for processing a processor task, wherein the controller comprises a plurality of peripheral devices for performing associated tasks and a central processing unit for controlling the plurality of peripheral devices, the method comprising the steps of:

determining the energy available to the controller; and

controlling the controller depending on the energy available to the controller, wherein the controlling is performed to control the plurality of peripheral devices in dependency on the processor task, the associated tasks and the energy available to the controller.

Claim 15 (Newly Added): An electronic circuit comprising:

a first controller that processes a processor task and comprises:

a plurality of peripheral devices that perform associated tasks; and

a central processing unit that controls the plurality of peripheral devices;

an energy determiner that determines energy available to the controller; and

a second controller that controls the first controller depending on the energy available to the first controller,

wherein the second controller is disposed to control the plurality of peripheral devices in dependency on the processor task, the associated tasks and the energy available to the first controller.

Claim 16 (Newly Added): The electronic circuit as claimed in claim 15, wherein the second controller is arranged so as to control the first controller such that an energy required by the first controller for the processor task is essentially equal to the energy available to the first controller.

Claim 17 (Newly Added): The electronic circuit as claimed in claim 15, further comprising:

an energy producer that produces the energy available to the first controller from electromagnetic energy supplied externally.

Claim 18 (Newly Added): The electronic circuit as claimed in claim 15, which is designed as an integrated circuit suitable for an application with contact-less terminals.

Claim 19 (Newly Added): The electronic circuit as claimed in claim 15, wherein the second controller comprises:

a controller clock setter with which the first controller is operated, wherein a clock rate of the first controller clock is increased when there is more energy available and decreased when there is less energy available.

Claim 20 (Newly Added): The electronic circuit as claimed in claim 15, wherein the first controller is implemented in CMOS technology.

Claim 21 (Newly Added): The electronic circuit as claimed in claim 15, wherein the second controller is arranged so as to control the peripheral devices such that computing time required for performance of the processor task by the first controller is minimized.

Claim 22 (Newly Added): The electronic circuit as claimed in claim 21, wherein the first controller is a cryptography processor, and the plurality of peripheral devices are cryptocoprocessors that perform computing tasks, and wherein the processor task is selected from a group consisting of an encryption, a decryption, an authentication and a signature according to the DES standard, the AES method, the RSA algorithm and the elliptic-curve method, and wherein the computing tasks of the plurality of cryptocoprocessors are selected from a group consisting of a modular and non-modular addition, multiplication, exponentiation and inversion, a hash-value calculation and a random number determination.

Claim 23 (Newly Added): The electronic circuit as claimed in claim 21, wherein the second controller further comprises:

a peripheral device clock setter with which the plurality of peripheral devices are operated; and

a switch that switches off individual peripheral devices of the plurality of peripheral devices.

Claim 24 (Newly Added): The electronic circuit as claimed in claim 23, wherein the peripheral device clock setter comprises an oscillator associated with one of the plurality of peripheral devices and produces a clock signal with an output clock frequency with which the associated peripheral device is clocked.

Claim 25 (Newly Added): The electronic device as claimed in claim 23, wherein the peripheral device clock setter comprises a clock multiplier associated with one of the plurality of peripheral devices and produces a clock signal with an output clock frequency with which the associated peripheral device is clocked.

Claim 26 (Newly Added): The electronic circuit as claimed in claim 15, wherein the second controller comprises a first clock setter that set a first clock with which the central processing unit is operated, and a second clock setter that sets a second clock with which the peripheral devices are operated, the first and second clocks being set such that the energy available suffices for processing the processor tasks and that, at the same time, the peripheral devices are assigned a maximum energy possible for performing the associated tasks.